

Abstract

Comparison of the efficacy of intraperitoneal injection of Bupivacaine with intravenous Ketorolac in postoperative pain control after Laparoscopic Cholecystectomy

Background: Opioid-associated adverse effects led to exploration of alternative strategies for pain management to minimize opioid consumption while maintaining adequate analgesia. This study is conducted to assess the effectiveness of intraperitoneal injection of bupivacaine with intravenous ketorolac in in postoperative pain control after laparoscopic cholecystectomy and the possibility of reduction of opioid consumption.

Methods: In this study 90 candidate of elective laparoscopic cholecystectomy were divided into 3 groups of 30 individuals. First group were injected 40 ml of intraperitoneal 0.25% marcaine at the end of the surgery (Group A); Second group were injected 30 mg of intravenous ketorolac 30 minutes before the end of the surgery and then ketorolac injection every 8 hours (Group B); and third group were injected intravenous and intraperitoneal normal saline (Group C). All groups were provided fentanyl pump. Patients were followed according to postoperative pain, amount of fentanyl consumption, level of nausea and vomiting, shoulder pain and satisfaction level in first postoperative 24 hours.

Results: The three groups did not show significant differences in basic variants regarding sexual distribution ($p=0.533$), mean age ($p=0.32$), weighted mean ($p=0.446$), ASA class ($P=0.429$) and mean operation duration ($p=0.595$). Both intraperitoneal marcaine and intravenous ketorolac resulted in significant reduction of pain in surgery site and shoulder pain in the first postoperative 24 hours compared with placebo; however, marcaine and ketorolac did not show significant differences in pain reduction compared with each other. Overall frequency of nauseas and vomiting was significantly lower in marcaine and ketorolac groups compared with placebo group and both intraperitoneal marcaine ($p=0.006$) and intravenous ketorolac ($p=0.033$) reported higher satisfaction level of their analgesic method compared with control group.

Conclusion: According to the results of this study, it seems that using both intraperitoneal marcaine and intravenous ketorolac are safe and effective methods for controlling pain, reducing nausea and vomiting and increasing level of satisfaction in patients who are candidate of laparoscopic cholecystectomy which can be easily performed in patients who undergo laparoscopic cholecystectomy.

Key Words: intraperitoneal injection of marcaine, intravenous ketorolac, postoperative pain, laparoscopic cholecystectomy.